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211235

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

START-02-F-03321

TRANSMITTAL MEMO

To: Eric Wilson, OSC
Response and Prevention Branch, U.S. EPA Region II

From: David Rosenberg, Data Reviewer
START Region II

Subject: Cornell Dubilier Site, South Plainfield, New Jersey
Data Validation Assessment

Date: January 18, 1999

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

  TCL - Total PCBs — 34 samples

- Matrices and Number of Samples

  Soil/Sediment — 33 samples
  Water — 1 sample

- Sampling date: November 14, 1998

The final data assessment narrative and original analytical data package are attached.

cc: START PM — Michael Mahnkopf
START FILE TDD #: 02-98-08-0072
TDD #: 02-98-11-0009
PCS #: 4407

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: **December 15, 1998**

TO: **Eric Wilson, OSC**
USEPA Region II

FROM: **David Rosenberg**
START Data Review Team

SUBJECT: **QA/QC Compliance Review Summary**

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Blanks
Spectra Matching Quality	DFTPP and BFB Tuning
Surrogate Spikes	Chromatography
Matrix Spikes/Duplicates	Holding Times
Calibration	Compound ID (HSL, TIC)

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I VOA	II BNA	III PEST/PCB	IV HERB
Acceptable as Submitted				
Acceptable with Comments			X	
Unacceptable, Action Pending				
Unacceptable				

Data Reviewed by: David Rosenberg Date: 1-15-99

Approved By: [signature] Date: 1/18/99

Area Code/Phone No.: (732) 225-6116

NARRATIVE

CASE No. 4337

SITE NAME: Cornell-Dubilier Site

South Plainfield, New Jersey

Laboratory Name: Ecology & Environment

INTRODUCTION:

The laboratory's portion of this Case consisted of 33 samples collected on November 14, 1998.

The laboratory reported No problem(s) with the receipt of these samples.

The laboratory reported a problem with the analyses of samples for PCBs.. (See letter from Tony Bogolin, Project Mgr) Many of the samples contained relatively large amounts of Aroclor 1254 which shares common PCB peaks with Aroclor 1260. The lab found it very difficult to quantitate the amount of Aroclor 1260 since they could not isolate the peaks. At our request, the lab requantitated the chromatographic data in order to determine the amount of Aroclor 1260 where possible.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the forms followed.

Evaluation by Fraction:

III. Pesticides/PCB -

Y Holding Times	Y Calibration Linearity
Y Instrument Performance	Y Blank
Y Surrogate Recovery	Y Retention Time Window
Y MS/MSD	Y Analytical Sequence
Y Compound ID	Y RT Check for TCX and DCB
Y Chromatography	

Comments:

1. Refer to Data Assessment Narrative.

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE # 4337 **SDG #** _____

LAB: Ecology & Environment **SITE:** Cornell-Dubilier

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Analytical data qualified as "JN" or "R" may not be used to demonstrate compliance with Toxicity Characteristic or Land Ban Regulations.

Reviewer's Signature: Ward Rosenberg **Date:** 1/15/1999

Verified By: _____ **Date:** __/__/19__

CLP DATA ASSESSMENT

On 14 November 1998, START personnel collected 33 soil samples at the Cornell-Dubilier Site in South Plainfield, New Jersey, including two field duplicates and extra volume for two MS/MSDs, and one rinse blank.. The samples were shipped by overnight express to Ecology & Environment Labs and submitted for total PCB analysis by SW-846 methods.

Client identification (ID) and laboratory ID numbers:

Client ID No.	Laboratory ID No.	Matrix
CDFF001, MS/MSD	18905	SOIL
CDFF002	18906	SOIL
CDFF003	18907	SOIL
CDFF004	18908	SOIL
CDFF005	18909	SOIL
CDFF006	18910	SOIL
CDFF007	18911	SOIL
CDFF008	18912	SOIL
CDFF009	18913	SOIL
CDFF010	18914	SOIL
CDFF011, MS/MSD	18915	SOIL
CDFF012	18916	SOIL
CDFF013	18917	SOIL
CDFF014	18918	SOIL
CDFF015	18919	SOIL
CDFF016	18920	SOIL
CDFF017	18921	SOIL
CDFF018	18922	SOIL
CDFF019	18923	SOIL
CDFF020	18924	SOIL
CDFF021	18925	SOIL
CDFF022	18926	SOIL
CDFF023	18927	SOIL
CDFF024	18928	SOIL
CDFF025	18929	SOIL
CDFF026	18930	SOIL
CDFF027	18931	SOIL
CDFF028	18932	SOIL
CDFF029	18933	SOIL
CDFF030	18934	SOIL
CDFF031	18935	SOIL
CDFF032	18936	SOIL- duplicate of CDFF001
CDFF033	18937	SOIL- duplicate of CDFF011
RB-1	18938	WATER- rinsate blank

CLP DATA ASSESSMENT

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

TCL Data

Pest/PCBs - The following data were qualified as estimated "J" or rejected "R" due to exceeding holding time criteria:

Sample ID	Matrix	Date Sampled	Date Extracted	Qualifier	# Compounds

No problems were found.

Note: Continuous extraction of water samples must be started within seven (7) days of the date of collection. Soil/Sediment/Solid samples must be extracted within seven (7) days of collection. Extracts must be analyzed within forty (40) days of extraction.

2. BLANK CONTAMINATION:

Quality Assurance (QA) blanks [i.e., method, trip, field or rinse blanks] are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

CLP DATA ASSESSMENT

Pest/PCBs - The following compounds were qualified as non-detected "U" in the associated samples due to method blank contamination:

Compound	Associated Samples
Aroclor-1016	No problems were found.
Aroclor-1221	No problems were found.
Aroclor-1232	No problems were found.
Aroclor-1242	No problems were found.
Aroclor-1248	No problems were found.
Aroclor-1254	No problems were found.
Aroclor-1260	No problems were found.

B) Field or Rinse Blank Contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

Pest/PCBs - The following compounds were qualified as non-detected "U" in the associated samples due to rinse blank contamination:

Compound	Associated Samples
No problems were found.	

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

Response Factor:

The response factor measures the instrument's response to specific chemical compounds. The response

factor for the VOA/BNA Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value $\leq$ 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean RRF of the initial calibration or the continuing calibration has a response factor < 0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated "J". All non-detects for those compounds will be rejected "R". The following analytes in the samples shown were qualified because of response factor:

Initial Calibration

No problems were found.

5. CALIBRATION:

PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and/or %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PESTICIDE/PCB fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

Initial Calibration

Pest/PCBs - The following compounds were qualified as estimated "J" or rejected "R" in the associated samples because the linearity criteria or the percent relative standard deviation (%RSD) of the Initial Calibration is > 20% for either one or both GC columns:

Compound	Percent Recovery Qualifier	Associated	Sample(s)

No problems were found.

Continuing Calibration:

Pest/PCBs - The Percent Difference (%D) for PEM compound amounts in the continuing calibration verification analyses and/or the %D amounts in the Individual Standard Mixes of the continuing calibration verification analyses are $\geq$ 25% for either one or both GC columns. The following

compounds were either qualified as estimated "J" or rejected "R" due to exceeding Continuing Calibration QC criteria:

Compound	RPD	Qualifier	Associated Sample(s)

No problems were found.

Pest/PCBs - The following compounds were qualified as estimated "J" in the associated samples because the Continuing Calibration %D is between 25-90% for these compounds on the primary GC column:

Compound	Associated Samples

No problems were found.

6. SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

Pest/PCBs - The following compounds were either qualified as estimated "J" or rejected "R" due to Tetrachloro-m-xylene (TCX) and Decachlorobiphenyl (DCB) surrogate recoveries are both outside specified advisory QC limits (30-150%):

Surrogate	Recovery	Qualifier	Compounds	Sample(s)

No problems were found.

[1] Positive values only were qualified as estimated "J" in the associated samples.

Note: Data were qualified because recoveries for both surrogates are outside specified QC limits and above 10%, or either surrogate has a percent recovery below 10%.

7. INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor

of 2 (-50% to 100%) from the associated continuing calibration standard. If the area count is outside the -50% to 100% range of the associated standard, then all of the positive results for compounds quantitated using that IS are qualified as estimated "J", and all non-detects as "UJ". If the IS area is > 25% (a severe loss of sensitivity) then all non-detects associated with that IS are qualified as "R" and all positive results for compounds quantitated using that IS are qualified as estimated "J".

The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgement to determine either partial or total rejection of the data for that sample fraction. The following analytes in the samples shown were qualified because of internal standard performance:

CLP DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

B) PESTICIDE FRACTION:

The retention time of the reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10 ng/ml in the final sample extract. The percent difference (%D) of the positive results obtained on the two GC columns would be ≤25%. The following analytes in the samples shown were qualified because of compound identification:

Pest/PCBs - The following detected compounds were qualified due to a percent difference (%D) between the primary and confirmation columns > 25%:

Compound	%D	Qualifier	Sample(s)

No problems were found.

Note: During the initial calibration sequence, absolute retention times are determined for all single response pesticides, the surrogates, and at least three major peaks of each multi-component analyte. Windows are centered around the mean absolute retention time for the analyte established during the initial calibration. Analytes are identified when peaks are observed in the retention time window for the compound on both GC columns. The quant reports listed many potential pesticide compounds for consideration. Comparison of the sample retention times to the retention time windows established during the initial calibration revealed that no additional pesticide compounds were detected in the associated samples. In addition, no shifts for surrogate compound retention times were noted to occur that might require consideration of compounds outside respective retention time windows.

9. MATRIX SPIKE/SPIKE DUPLICATE (MS/MSD):

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data. The following analytes, for the samples shown, were qualified because of MS/MSD:

CLP DATA ASSESSMENT

Pest/PCBs - The following sample data were either qualified as estimated "J" or rejected "R" due to exceeding duplicate spike recovery QC criteria:

Original Sample	Spike Recovery	Qualifier	Compound(s)

No problems were found.

10. OTHER QC DATA OUT OF SPECIFICATION:

No problems were found.

Pest/PCBs - The following compounds were qualified as estimated "J" in the associated aqueous and/or soil/sediment field duplicate samples because the Relative Percent Difference (RPD) between the sample and field duplicate sample is > 50% for aqueous samples, or > 100% for soil/sediment samples:

Compound	Matrix	% RPD	Associated Field Duplicate Samples

No problems were found.

The following soil/sediment/solid sample data (other than TCLP data) were either qualified as estimated "J" (% moisture between 50-90%) or rejected "R" (%moisture > 90%) because the sample contains more than 90% water:

Fraction	Percent Moisture	Qualifier	# Compounds	Sample(s)

Pest/PCBs

No problems were found.

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT:

Due to professional judgement, the following compounds were not transferred from the indicated dilution sample analyses to the undiluted sample analyses because the reported values of these compounds are either diluted out in the associated dilution sample analyses or are qualified as non-detected "U" due to blank contamination QC criteria:

Fraction	Compound	Dilution Sample(s)	Dilution Factor

No problems were found.

CLP DATA ASSESSMENT

Due to professional judgement, the following positive data were rejected "R" due to possible carryover from a previous sample analysis that contained the compound(s) at high concentration(s):

Fraction	Sample Compound	Sample Compound Concentration	Previous Sample Compound Concentration

No problems were found.

12. CONTRACT PROBLEMS/NON-COMPLIANCE:

The initial laboratory report did not quantify Aroclor 1260 because there were large amounts of Aroclor 1254 whose peaks overlapped with many of the Aroclor 1260 peaks. The data was reworked to show whatever Aroclor 1260 could be detected and quantitated from peaks unique to Aroclor 1260 and new Form Is were prepared. The data package now includes both reports.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4337

SOIL: Low Concentration

Sample #/Concentration (ug/Kg)

Sample Date		11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98
Sample ID		F021	F022	F023	F024	F025	F026	F027	F028	F029	F030
Lab ID	Method	18925	18926	18927	18928	18929	18930	18931	18932	18933	18934
% Moisture	Quant.	19%	23%	12%	16%	12%	12%	11%	14%	15%	16%
Dilution Factor	Limit	10	10	10	10	10	10	10	10	10	10
Aroclor-1016	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	490	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	245	890	350	350	830	560	730	1000	670	610	550
Aroclor-1260	245	220 J	140 J	110 J	160 J	130 J	210 J	240	150 J	140 J	120 J
Total PCB	(MG/KG)	1.11 J	0.49 J	0.46 J	0.99 J	0.69 J	0.94 J	1.24	0.82 J	0.75 J	0.67 J

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4337

SOIL: Low Concentration

Sample #/Concentration (ug/Kg)

Sample Date		11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98
Sample ID		F001	F002	F003	F004	F005	F006	F007	F008	FOO9	F010
Lab ID	Method	18905	18906	18907	18908	18909	18910	18911	18912	18913	18914
% Moisture	Quant.	17%	18%	19%	18%	14%	13%	10%	19%	31%	15%
Dilution Factor	Limit	10	10	10	10	10	10	10	10	20	10
Aroclor-1016	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	490	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	245	340	890	720	1500	600	1100	990	1000	2800	650
Aroclor-1260	245	U	U	U	U	U	560	180 J	U	440 J	130 J
Total PCB	(MG/KG)	0.34	0.89	0.72	1.50	0.60	1.66	1.17 J	1.00	3.24 J	0.78 J

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4337

SOIL: Low Concentration

Sample #/Concentration (ug/Kg)

Sample Date		11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98	11/14/98
Sample ID		F011	F012	F013	F014	F015	F016	F017	F018	FO19	F020
Lab ID	Method	18915	18916	18917	18918	18919	18920	18921	18922	18923	18924
% Moisture	Quant.	15%	16%	14%	14%	21%	15%	14%	13%	14%	15%
Dilution Factor	Limit	10	20	10	20	10	10	20	10	10	10
Aroclor-1016	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1221	490	U	U	U	U	U	U	U	U	U	U
Aroclor-1232	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1242	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1248	245	U	U	U	U	U	U	U	U	U	U
Aroclor-1254	245	790	3900	1100	6000	1600	920	2100	560	720	340
Aroclor-1260	245	260	260 J	230	240 J	240 J	200 J	380 J	140 J	260	140 J
Total PCB	(MG/KG)	1.05	4.16 J	1.33	6.24 J	1.84 J	1.12 J	2.48 J	0.7 J	0.98	0.48 J

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4337

SOIL: Low Concentration

Sample #/Concentration (ug/Kg)

Sample Date		11/14/98	11/14/98	11/14/98							
Sample ID		F031	F032	F033							
Lab ID	Method	18935	18936	18937							
% Moisture	Quant.	18%	17%	15%							
Dilution Factor	Limit	10	10	10							
Aroclor-1016	245	U	U	U							
Aroclor-1221	490	U	U	U							
Aroclor-1232	245	U	U	U							
Aroclor-1242	245	U	U	U							
Aroclor-1248	245	U	U	U							
Aroclor-1254	245	360	310	870							
Aroclor-1260	245	110 J	66 J	270							
Total PCB	(MG/KG)	0.47 J	0.97 J	1.14							

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

RFP No.: 4337

PO No.: 98699

CHAIN OF CUSTODY RECORD

WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W8-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	* See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaiy, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL				BOMA ANALYSIS			EPAC	OTHER
CDFF001	11/14/98 1205	5	L	G	6				X									MS/MSD
002	1140								X									
003	1146								X									
004	1152								X									
005	1158								X									
006	1153								X									
007	1150								X									
008	1145								X									
009	1140								X									
010	1135								X									
011	1215								X									MS/MSD

Comments:

Person Assuming Responsibility for Sample: M. Mahoney

Time: 1400 Date (MM/DD/YY): 11/14/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	M. Mahoney				

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Services Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

CHAIN OF CUSTODY RECORD

RFP No.: 4337

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WESTON

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	• See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumisiy, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	CLP ANALYSIS VOA	BNA	PEST	PCBs	TAL/CN	Dioxin	RCRA ANALYSIS TCLP	REAC	OTHER
CDFF012	11/14/98 1210	5	L	G	6				X					
013	1220								X					
014	1204								X					
015	1214								X					
016	1220								X					
017	1226								X					
018	1234								X					
019	1240								X					
020	1248								X					
021	1254								X					
022	1246	↓	↓	↓	↓				X					

Comments:

Person Assuming Responsibility for Sample: M. Markkanen

Time: 1400 Date (MM/DD/YY): 11/14/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	M. Markkanen				

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Services Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

CHAIN OF CUSTODY RECORD

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WESTON. MANAGERS OF ECONOMICS/ENVIRONMENTAL SYSTEMS

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W8-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	• See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	DRO	GRO	RPAC	OTHER
CDFF023	11/14/98 1240	5	L	G	6				X					
024	1235								X					
025	1230								X					
026	1225								X					
027	1301								X					
028	1305								X					
029	1255								X					
030	1300								X					
031	1250								X					
032	1205								X					
033	1215								X					

Comments:

Person Assuming Responsibility for Sample: M. Mahaffey

Time: 1400 Date (MM/DD/YY): 11/14/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	M. Mahaffey				

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Services Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

CHAIN OF CUSTODY RECORD

RFP No.: 4337

PO No.: 98699

WESTON DESIGN/CONSULTANTS

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-6116 Fax: 908-225-7037

Matrix Box No.:	Preservative Box No.:
1. Surface Water	1. HCl
2. Ground Water	2. HNO3
3. Leachate	3. Na2SO4
4. Rinsate	4. H2SO4
5. Soil/Sediment	5. Other (Specify)
6. Oil	6. Ice Only
7. Waste	N. Not Preserved
8. Other (Specify)	• See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	BASE ANALYSIS: VOA	BNA	PEST/PCBs	TAL/CN	PCDA ANALYSIS: [illegible]	[illegible]	RPAC	OTHER
RB-1	11/14/98 1115	4	L	G	6			X					

Comments:

Person Assuming Responsibility for Sample: M. Mahoney

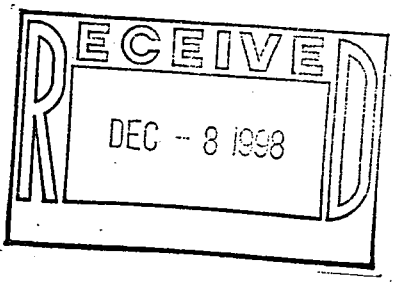
Time: 1400 Date (MM/DD/YY): 11/14/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	M. Mahoney				

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Services Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

Ecology & Environment, Inc.
Analytical Services Center

Job number: 9802.916
Roy F. Weston



NONCONFORMANCE SUMMARY

PCBs

The column for this analysis was 30 m long with 0.53 mm diameter RTX-35.

The reporting limits were raised according to the percent solids present in the soil samples. Aroclor 1254 was found in the soil samples. No PCBs were detected in the water sample.

QC samples associated with the water sample met method criteria.

Soil samples were analyzed at secondary dilutions and their quantitation limits were raised accordingly. In samples CDFF009, CDFF012, CDFF014 and CDFF017 the surrogates were diluted out.

Some samples had elevated surrogate (DCB) recoveries due to co-elution with non-target matrix interference.

CDFF001 MSD Aroclor 1260 spike recovery was outside QC Limits due to Aroclor 1254 native to sample and non-target matrix interference. Laboratory control sample (LCS) 1311-42-2 and method blank met QC criteria.

CDFF011 MS/MSD Aroclor 1260 spike recovery was outside QC Limits due to Aroclor 1254 native to sample and non-target matrix interference. Laboratory control sample (LCS) 1311-44-2 and method blank met QC criteria.

Gary Rudz, Senior Chemist

ecology and environment, inc.
International Specialists in the Environment

ANALYTICAL SERVICES CENTER
4493 Walden Avenue
Lancaster, New York 14086
Tel. (716) 685-8080, Fax: (716) 685-0852

January 11, 1999

Mr. David Rosenberg
Roy F. Weston – Edison
1090 King Georges Post Road
Suite 201
Edison, NJ 08837

RE: 9802.916 resubmittal

Dear Mr. Rosenber:

Attached is a submitted laboratory report of the analyses conducted on twenty-seven samples received at the Analytical Services Center on November 16, 1998. The samples were analyzed according to methods set forth in the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, Update III, June 1997, USEPA.

At your request the data for this package was requantitated for presence of PCB aroclor-1260. The pattern was masked by the presence of larger amounts of PCB aroclor -1254 so quantitation is difficult. Only a small portion of the PCB-1260 pattern was available for requantitation. Please keep this in mind in using the requantitation data.

A facsimile of these results was sent to Mike Mankoff on January 5, 1999.

Very truly yours,

Tony Bogolin/C.M.

Tony Bogolin - Project Manager
Analytical Services Center

TB/cam
Enclosure

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 83 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18905 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF001

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	340		240
PCB-1221	ND		480
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	ND		240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON -- EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 82 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18906 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF002

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	890		240
PCB-1221	ND		490
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	ND		240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON -- EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 81 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18907 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF003

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		250
PCB-1254	720		250
PCB-1221	ND		490
PCB-1232	ND		250
PCB-1248	ND		250
PCB-1260	ND		250
PCB-1016	ND		250

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1

JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT
TEST NAME : 8082 PCB
SAMPLE ID LAB : EE-98-18908
SAMPLE ID CLIENT: CDFF004

%SOLIDS : 82 %
UNITS : UG/KG
MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	1500		240
PCB-1221	ND		490
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	ND		240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18909 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF005

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	600		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	ND		230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 87 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18910 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF006

PARAMETER	RESULTS	Q	QNT. LIMIT.
PCB-1242	ND		230
PCB-1254	1100		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	560		230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 90 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18911 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF007

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		220
PCB-1254	990		220
PCB-1221	ND		440
PCB-1232	ND		220
PCB-1248	ND		220
PCB-1260	180	J	220
PCB-1016	ND		220

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 81 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18912 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF008

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		250
PCB-1254	1000		250
PCB-1221	ND		490
PCB-1232	ND		250
PCB-1248	ND		250
PCB-1260	ND		250
PCB-1016	ND		250

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 69 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18913 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF009

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		580
PCB-1254	2800		580
PCB-1221	ND		1200
PCB-1232	ND		580
PCB-1248	ND		580
PCB-1260	440	J	580
PCB-1016	ND		580

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18914 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF010

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	650		240
PCB-1221	ND		470
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	130	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18915 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF011

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	790		240
PCB-1221	ND		470
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	260		240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 84 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18916 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF012

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		480
PCB-1254	3900		480
PCB-1221	ND		950
PCB-1232	ND		480
PCB-1248	ND		480
PCB-1260	260	J	480
PCB-1016	ND		480

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18917 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF013

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	1100		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	230		230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18918 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF014

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		460
PCB-1254	6000		460
PCB-1221	ND		930
PCB-1232	ND		460
PCB-1248	ND		460
PCB-1260	240	J	460
PCB-1016	ND		460

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 79 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18919 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF015

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		250
PCB-1254	1600		250
PCB-1221	ND		510
PCB-1232	ND		250
PCB-1248	ND		250
PCB-1260	240	J	250
PCB-1016	ND		250

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18920 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF016

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	920		240
PCB-1221	ND		470
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	200	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 87 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18921 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF017

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		460
PCB-1254	2100		460
PCB-1221	ND		920
PCB-1232	ND		460
PCB-1248	ND		460
PCB-1260	380	J	460
PCB-1016	ND		460

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 87 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18922 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF018

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	560		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	140	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18923 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF019

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	720		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	260		230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 87 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18924 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF020

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	340		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	140	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 81 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18925 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF021

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		250
PCB-1254	890		250
PCB-1221	ND		490
PCB-1232	ND		250
PCB-1248	ND		250
PCB-1260	220	J	250
PCB-1016	ND		250

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 77 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18926 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF022

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		260
PCB-1254	350		260
PCB-1221	ND		520
PCB-1232	ND		260
PCB-1248	ND		260
PCB-1260	140	J	260
PCB-1016	ND		260

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 88 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18927 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF023

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	350		230
PCB-1221	ND		450
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	110	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 84 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18928 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF024

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	830		240
PCB-1221	ND		480
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	160	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 88 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18929 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF025

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	560		230
PCB-1221	ND		450
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	130	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 88 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18930 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF026

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	730		230
PCB-1221	ND		450
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	210	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 89 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18931 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF027

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		220
PCB-1254	1000		220
PCB-1221	ND		450
PCB-1232	ND		220
PCB-1248	ND		220
PCB-1260	240		220
PCB-1016	ND		220

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 86 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18932 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF028

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		230
PCB-1254	670		230
PCB-1221	ND		460
PCB-1232	ND		230
PCB-1248	ND		230
PCB-1260	150	J	230
PCB-1016	ND		230

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18933 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF029

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	610		240
PCB-1221	ND		470
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	140	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 84 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18934 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF030

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	550		240
PCB-1221	ND		480
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	120	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 82 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18935 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF031

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	360		240
PCB-1221	ND		490
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	110	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 83 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18936 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF032

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	310		240
PCB-1221	ND		480
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	66	J	240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9802.916
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 85 %
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-18937 MATRIX : SOLID
SAMPLE ID CLIENT: CDFF033

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		240
PCB-1254	870		240
PCB-1221	ND		470
PCB-1232	ND		240
PCB-1248	ND		240
PCB-1260	270		240
PCB-1016	ND		240

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE